

Patent Application No. 09/681,643

REMARKS

The Examiner is thanked for carefully reviewing the present application. The present amendment is in response to the Office Action mailed on March 13, 2006 regarding claims 1-10 and 17-22.

Favorable reconsideration is requested in view of the above amendments and the following remarks.

Claims 1, 2, 17, 19, 21 and 22 are amended to particularly point out that the oxide film is formed *specifically on a substantially entire inner wall* of a CVD processing chamber (see Fig. 3 and paragraph 0033 of the published specification). Claim 17 is further amended to particularly point out that the substantially entire inner wall of the CVD processing chamber is heated so as to facilitate forming the oxide film thereon (see paragraph 0035 lines 6-10 of the published specification). Claims 11-16 are cancelled. Thus, claims 1-10 and 17-22 are now pending in the present application. The amended claims contain no new matter nor raise new issues.

CLAIM REJECTIONS UNDER 35 USC §103(a)I:

Claims 1-10 and 19-21 are rejected under 35 U.S.C.103(a) as being unpatentable over Ohnuma et al. (US 6072193) in view of Gardner et al. (US 6,066,519). The rejections are respectfully traversed.

As explicitly recited in claims 1 and 19, the claimed invention featured in pre-coating the inner wall of the processing chamber with the oxide film so as to prevent the chemical species containing P from being stuck to the inner wall thereof (see column 0025 of the published specification, meaning that the oxide film 15 has to be formed *specifically (intentionally)* on the *substantially entire* inner wall of the CVD processing chamber 9 for providing the aforementioned prevention (also see Fig. 3), so that no or minimum the chemical species containing P is allowed to be stuck on the inner wall thereof. Moreover, such as shown in Fig. 2, step 202 of forming oxide film is an individual step separated from step 201 of depositing a gate insulating film, meaning that the claimed invention is directed to performing a specific step mainly to form the oxide film and control the thickness of the oxide film to at least 50nm, and in the same step 202, it is not desirable to form (gate) oxide on the substrate.

In contrast, Gardner' step 306 as shown in Fig. 3 is mainly to form a

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layer of oxide 403 over the substrate 401 using an oxide source showerhead (see column 4 lines 54-55), and it is not desirable to form oxide on the chamber walls or the showerhead which are removed at Gardner' step 312 (see column 6 lines 5-13). Apparently, Gardner's step 306 is desired to form the oxide film **as little as possible** on the chamber walls, and in fact, the oxide in Gardner's teachings is formed on the chamber walls **unintentionally**, and thus Gardner cannot form the oxide film specifically on the substantially entire chamber walls, and control the thickness thereof to at least 50nm.

On the other hand, Ohnuma merely teaches forming gate oxide on the substrate, and is silent with respect to forming the oxide film on the inner wall of the CVD processing chamber. Since Gardner does not want the oxide film to be formed on the inner wall of the CVD processing chamber; and Ohnuma is silent with respect thereto, the combined teachings of Gardner and Ohnuma lead to unintentionally forming unwanted oxide on the chamber wall while forming gate oxide on the substrate, and certainly fail to teach or suggest forming the oxide film specifically on the substantially entire inner wall of the CVD processing chamber; and controlling the thickness of the oxide film to at least 50nm. Therefore, claims 1 and 19 are not obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 17, the claimed invention discloses a specific feature of heating the substantially entire inner wall of the CVD processing chamber to facilitate forming the oxide film thereon. However, Gardner merely suggests a generic concept of controlling the temperature and pressure of the chamber for depositing oxide on a substrate, but not to facilitate forming the oxide film specifically on a substantially entire inner wall of a CVD processing chamber. Apparently, Gardner's generic concept of controlling the temperature of the chamber cannot lead to the specific feature of heating the substantially entire inner wall as recited in claim 17 of the claimed invention. Therefore, claim 17 is not obvious to one of ordinary skill in the art at the time the invention was made.

With regard to claims 2-10 and 17-18, since claim 1 is allowable, dependent claims 2-10 and 17-18 each of which depends from independent claim 1 are likewise believed to be allowable.

With regard to claims 20-21, since claim 19 is allowable, dependent claims 20-21 each of which depends from independent claim 1 are likewise believed to be allowable.

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Accordingly, Applicants respectfully requests that the section 103(a) rejections be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. §103(a)II:

Claim 22 is rejected under 35 U.S.C.103(a) as being unpatentable over Ohnuma et al. in view of Gardner et al. and further in view of Deane et al. (US 6,180,438). This rejection is respectfully traversed.

Since claim 1 is allowable, dependent claim22 which depends from independent claim 1 are likewise believed to be allowable. Accordingly, Applicants respectfully requests that the section 103(a) rejections be withdrawn.

CONCLUSION

In light of the above remarks, all objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited. If there are any remaining issues to be resolved, Applicant requests that Examiner contact the undersigned attorney for a telephone interview.

No fee is believed due with this Response, however, should a fee be required please charge Deposit Account 50-3720. Should any extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-3720 the required fee.

Respectfully submitted,

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Ido Tuchman, Reg. No. 45,924
Law Office of Ido Tuchman
82-70 Beverly Road
Kew Gardens, NY 11415
Telephone (718) 544-1110
Facsimile (718) 544-8588